

## Livelihood and seed mortality related vulnerability of carp seed traders of Bangladesh

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### Abstract

Carp seed traders in Bangladesh are considered as one of the poorest, most vulnerable and least studied sub-population. Millions of fingerlings are transported annually to various parts of the country using bus tops and/or truck-beds in open and hand agitated method by the traders and as a result they encounter mass seed mortality. They are the key players in augmenting aquaculture activities by distributing fish fry and fingerlings to the fish farmers. Assessment of the seed sources and the livelihood of the traders are important to identify their point of entry to the aquaculture sector and further improvement. Status of household asset, income profiles, and risks involved were examined using DFID's sustainable livelihood approach (SLA) framework. Tools used to collect data included group discussions (GD), semi-structured and structured household (HH) survey. Samples (n=637) were randomly drawn purposefully from 10% of the carp seed traders within 11 districts. Sampled HH were classified into six land classes.

**Key words:** Carp seed traders, Livelihood Vulnerability

### Research findings

- Of the sample HH surveyed, approximately 92% of the carp seed traders were poor in terms of land holding.
- Half of the traders were absolutely landless, further quarters were landless and 16% were marginal.
- Most traders (92%) owned homestead land, 40% owned cultivable land and 18% owned cultivated land.
- Land was found to be the main asset that contributed about 40% to the total asset value.
- Only 25% carp seed traders had primary level, 12% had high school level education and half of the traders had no education at all.
- Most traders (76%) suffered from fever and cold (64%) directly due to their trading activities.

- Across the land classes, half of the sampled HH (55%) owned no cattle but most (77%) owned goats. Most (68%) HH had access to NGO's and was followed by local money-lender (22%) and Govt. Bank (17%) as source for their credit. Interestingly, most traders (70%) had political party affiliation.
- Both seed trading and labor selling were equally (22%) important as sources of income. Income from carp seed trading to their livelihood had highest (52%) return.
- Most traders (84%) encountered mass mortality of fish seeds. Each trader lost about US\$ 110 due to seed mortality which is a significant portion (10%) of HH annual income.

### Policy implications

- There should be a NGO's consortium to transform currently used earthen ponds into cemented cisterns as holding tank in the fish seed markets with electricity supply and public toilet facilities;
- Continuous supply of well-water in the fish seed trading market with re-circulation facilities should be ensured;
- Local participatory approach need to be adopted for resolving conflicts between the middlemen and seed traders;
- There should be option of microfinance for the traders both at the beginning of the season and in case of capital loss resulting from mass seed mortality;
- There should be formulation and enforcement of law for the fingerling producers to condition their fish seeds for 4 days prior to sale;
- There should be facilities for micro-credits to buy small aerators and transforming the seed carrying trucks with aeration facilities for seed transportation;
- Proper licensing from the DoF/other appropriate authorities for selling different chemicals to be used for enhancement of transport.

### Livelihood implications

NGOs should be engaged in fisheries and aquaculture activities for the production of good quality fish seed and selling them to the small-scale seed traders at least at 10% discount than the prevailing market price. There may be an arrangement for production of table fish and selling them back to the seed traders during off-season. This will provide the poor fish seed traders a continuous income flow to their household and sustain their livelihood. There should be a permanent policy for gradual improvement of the present carp seed transporting technique and facilities for reduction of risks resulting from transport stress and mortality vis-à-vis increasing income. Fish seed trading is the most significant component of the seed traders' livelihood and income profiles. Any risk to the seed trading may negatively affect their livelihood and aquaculture production.